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REVISION KNEE TIBIAL LOCKING MECHANISM

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of U.S. patent application Ser. No. 13/162,789 filed on Jun. 17, 2011, which issued as U.S. Pat. No. 8,617,250 on Dec. 31, 2013. The entire disclosure of application Ser. No. 13/162,789 is incorporated herein by reference.

FIELD

The present disclosure relates to knee joint prosthesis and, more particularly, to a tibial prosthesis assembly having a tibial insert that is permitted to rotate a predetermined amount around a superior surface of a tibial component.

BACKGROUND

This section provides background information related to the present disclosure which is not necessarily prior art.

A knee joint prosthesis typically comprises a femoral component and a tibial component. The femoral component and the tibial component are designed to be surgically attached to the distal end of the femur and the proximal end of the tibia, respectively. The femoral component is further designed to cooperate with the tibial component in simulating the articulating motion of an anatomical knee joint. Such knee joint prostheses are generally referred to as primary knee prostheses. Knee joint prostheses, in combination with ligaments and muscles, attempt to duplicate natural knee motion as well as absorb and control forces generated during the range of flexion. In some instances however, it may be necessary to replace an existing prosthesis. Such replacement prostheses are generally referred to as revision knee prostheses. Some knee joint prostheses incorporate a tibial insert or bearing that is fixed relative to the tibial component. Such a configuration may have a very constrained tibiofemoral articulation in axial rotation. During surgery, the tibial component may be rotationally aligned with tibial landmarks. Similarly, the femoral component may be rotationally aligned with femoral landmarks. Therefore, the tibial and femoral components may be positioned independently of each other. Because they are positioned independently, the femoral component and the tibial component may not optimally align with each other. In this regard, when highly constrained articulations are forced to mate, the constrained bearing and the bone/implant interface may experience undesirable higher stresses.

SUMMARY

This section provides a general summary of the disclosure, and is not a comprehensive disclosure of its full scope or all of its features.

The present teachings provide for a tibial prosthesis assembly including a tibial component and a tibial insert. The tibial component includes an inferior bone engaging surface, a superior surface, and a first retention feature. The tibial insert includes an inferior tibial component engaging surface, a superior bearing surface, and a second retaining feature. The first and the second retaining features cooperate to mate the tibial insert with the tibial component at one of a plurality of fixed rotational orientations relative to the tibial component.

The present teachings further provide for a tibial prosthesis assembly including a tibial tray and a tibial insert. The tibial

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tray includes an inferior bone engaging surface, a superior surface, and a first retaining feature including a first indexable member. The tibial insert has an inferior tray engaging surface, a superior bearing surface, and a second retaining feature including a second indexable member. The second indexable member of the tibial insert is configured to indexably mate with the first indexable member of the tibial tray at one of a plurality of fixed rotational orientations relative to the tibial tray in an assembled position.

The present teachings also provide for a tibial prosthesis assembly including a tibial component and a tibial insert. The tibial component includes a tibial tray and a first stem extending therefrom. The tibial tray includes a superior bearing engaging surface and an inferior bone engaging surface. The tibial component defines a first retention member extending from the superior bearing engaging surface into the first stem. The tibial insert includes an inferior tray engaging surface, a superior bearing surface, and a second stem extending from the inferior tray engaging surface. The second stem includes a second retention member configured to be received within, and cooperate with, the first retention member to indexably mate with the first retention member.

Further areas of applicability will become apparent from the description provided herein. The description and specific examples in this summary are intended for purposes of illustration only and are not intended to limit the scope of the present disclosure.

DRAWINGS

The drawings described herein are for illustrative purposes only of selected embodiments and not all possible implementations, and are not intended to limit the scope of the present disclosure.

FIG. 1 is an anterior perspective view of a tibial prosthesis assembly constructed in accordance to one example of the present teachings and including a tibial component, a tibial insert, and a locking bar;

FIG. 2 is a superior view of the tibial prosthesis assembly of FIG. 1;

FIG. 3 is a cross-sectional view of the tibial prosthesis assembly taken along lines 3-3 of FIG. 1;

FIG. 4 is a cross-sectional superior view of the tibial prosthesis assembly of FIG. 3 and shown with the tibial insert rotated relative to the tibial component;

FIG. 5 is an exploded anterior perspective view of the tibial prosthesis assembly of FIG. 1;

FIG. 6 is a cross-sectional view of the tibial prosthesis assembly of FIG. 5 taken along a sagittal plane and shown with the tibial insert initially positioned toward the tibial component during an assembly step;

FIG. 7 is a cross-sectional view of the tibial prosthesis assembly of FIG. 6 shown subsequent to installation of the locking bar;

FIG. 8 is a superior view of a tibial prosthesis assembly constructed in accordance to additional features of the present teachings; and

FIG. 9 is an exploded anterior perspective view of the tibial prosthesis assembly of FIG. 8.

Corresponding reference numerals indicate corresponding parts throughout the several views of the drawings.

DETAILED DESCRIPTION

Example embodiments will now be described more fully with reference to the accompanying drawings.